WHAT IS CLAIMED IS:

1. A thin-film organic laser, comprising:

a) a substrate;

b) a bottom mirror provided on the substrate;

c) at least one active region deposited on the bottom mirror, wherein the at least one active region includes organic gain material;

d) an external mirror provided at a predetermined distance from the at least one active region such that the bottom mirror combined with the external mirror forms a laser resonator; and

e) an optical pumping means for exciting the organic gain material to produce a laser beam with a wavelength λ and at least one lateral laser mode in the laser resonator and an output of laser light.

2. The thin-film organic laser claimed in claim 1, wherein the predetermined distance of the external mirror from the active region is greater than a thickness, t_{act}, of the active region.

3. The thin-film organic laser claimed in claim 1, wherein the predetermined distance of the external mirror from the active region is greater than 10 mm.

4. The thin-film organic laser claimed in claim 1, further comprising:

f) a birefringent tuning element provided between the active region and the external mirror.

5. The thin-film organic laser claimed in claim 4, wherein the birefringent tuning element tunes the wavelength λ.

6. The thin-film organic laser claimed in claim 1, further comprising:

f) a Fabry-Perot etalon provided between the active region and the external mirror.

7. The thin-film organic laser claimed in claim 6, wherein the Fabry-Perot etalon tunes the wavelength λ.

8. The thin-film organic laser claimed in claim 1, further comprising:

f) an aperture, having a predetermined diameter, for controlling the at least one lateral laser mode.

9. The thin-film organic laser claimed in claim 8, wherein the selectable sized hole is a circle.

10. The thin-film organic laser claimed in claim 8, wherein the selectable sized hole has a diameter in relation to the at least one lateral laser mode.

11. The thin-film organic laser claimed in claim 8, wherein the selectable sized hole is elongated such that a plurality of later laser modes are transmitted in one direction and a single lateral laser mode is transmitted in another direction.

12. The thin-film organic laser claimed in claim 1, wherein the optical pumping means provides the excitation of the organic gain material respective to the at least one lateral laser mode such that an excitation distribution overlaps an intensity profile of the at least one lateral laser mode.

13. The thin-film organic laser claimed in claim 1, wherein the laser beam includes a standing wave comprising an intensity pattern perpendicular to the active region.

14. The thin-film organic laser claimed in claim 13, wherein the active region comprises:

a) a plurality of thin layers of organic gain material aligned with peaks of the intensity pattern; and

b) a plurality of spacer layers separating the plurality of thin layers of organic gain material.

15. The thin-film organic laser claimed in claim 1, wherein the at least one active region includes a plurality of different molecular compositions of organic gain material such that each of the different molecular compositions of organic gain material has a corresponding laser wavelength range.

16. The thin-film organic laser claimed in claim 15, wherein the plurality of different molecular compositions of organic gain material are small molecular weight organic host-dopant combinations.

17. The thin-film organic laser claimed in claim 16, wherein the plurality of different molecular compositions of organic gain material are selected from the group consisting of: aluminum tris(8-hydroxyquinoline) (Alq), [4-(dicyanomethylene)-2-t-butyl-6-(1,1,7,7-tetramethyljulolidyl-9-enyl)-4H-pyran] (DCJTB), and [10-(2-benzothiazolyl)-2,3,6,7-tetrahydro-1,1,7,7-tetramethyl-1H,5H,11H-[1]Benzopyrano[6,7,8-ij]quinolizin-11-one] (C545T).

18. The thin-film organic laser claimed in claim 15, wherein the plurality of different molecular compositions of organic gain material are individually aligned corresponding to a plurality of standing wave peaks within the at least one active region.

19. The thin-film organic laser claimed in claim 1, wherein the optical pumping means a source of photons which are selected from the group consisting of: light emitting diodes (LEDs), lamps, and lasers.

20. The thin-film organic laser claimed in claim 1, wherein the optical pumping means includes an array of individual-addressable light emitting diodes.

21. The thin-film organic laser claimed in claim 20, wherein the individually-addressable light emitting diodes are modulated to produce a pumping intensity distribution that overlaps an intensity profile of the at least one lateral laser mode.

22. The thin-film organic laser claimed in claim 19, the optical pumping means further comprising a lenslet array in cooperation with the source of photons.

23. The thin-film organic laser claimed in claim 19, the optical pumping means further comprising an apodizing filter having a spatial-varying attenuation and provided between the source of photons and the substrate to produce a pumping intensity distribution that overlaps an intensity profile of the at least one lateral laser mode.

24. The thin-film organic laser claimed in claim 1, wherein the substrate has a spherical surface with a radius of curvature, R_1.

25. The thin-film organic laser claimed in claim 24, wherein the predetermined distance from the active region is $R_1 - \Delta$, wherein Δ is between 0 and $0.01R_1$.